

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 322 AND MD 33 IN TALBOT COUNTY. THE WORK IS NECESSITATED BY WIDENING ON ALL APPROACHES TO THE INTERSECTION. MD 322 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE RECONSTRUCTED INTERSECTION WILL OPERATE IN A NEMA EIGHT-PHASE, FULLY-ACTUATED MODE WITH EXCLUSIVE LEFT TURN PHASES FOR ALL APPROACHES.

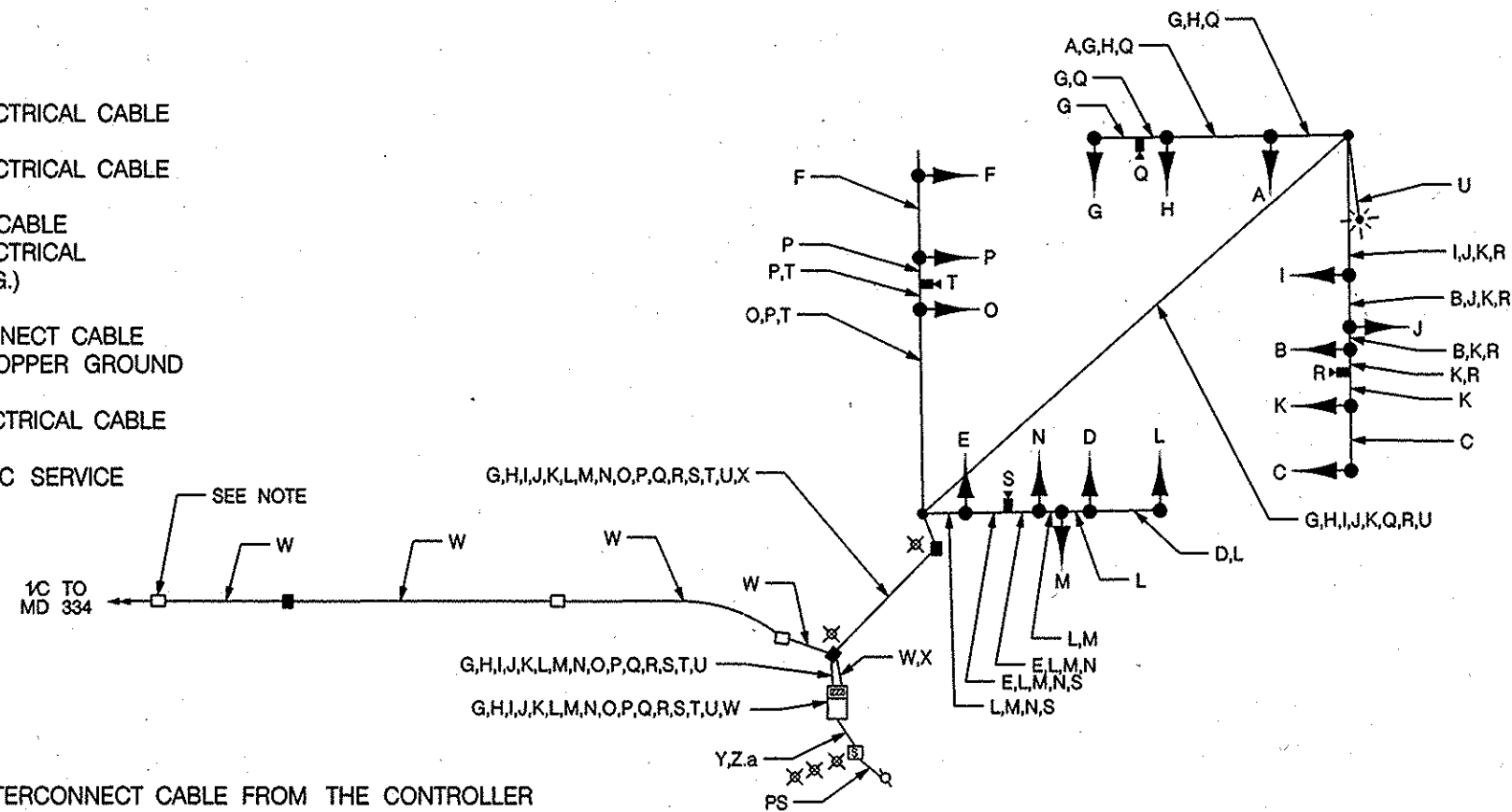
CONTROLLER REQUIREMENTS

A NEW EIGHT-PHASE, FULLY-ACTUATED CONTROLLER WITH TWO (2) FOUR CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS HOUSED IN A NEMA "6" BASE MOUNTED CABINET WILL BE INSTALLED AT THE INTERSECTION.

WIRING DIAGRAM PHASE 1

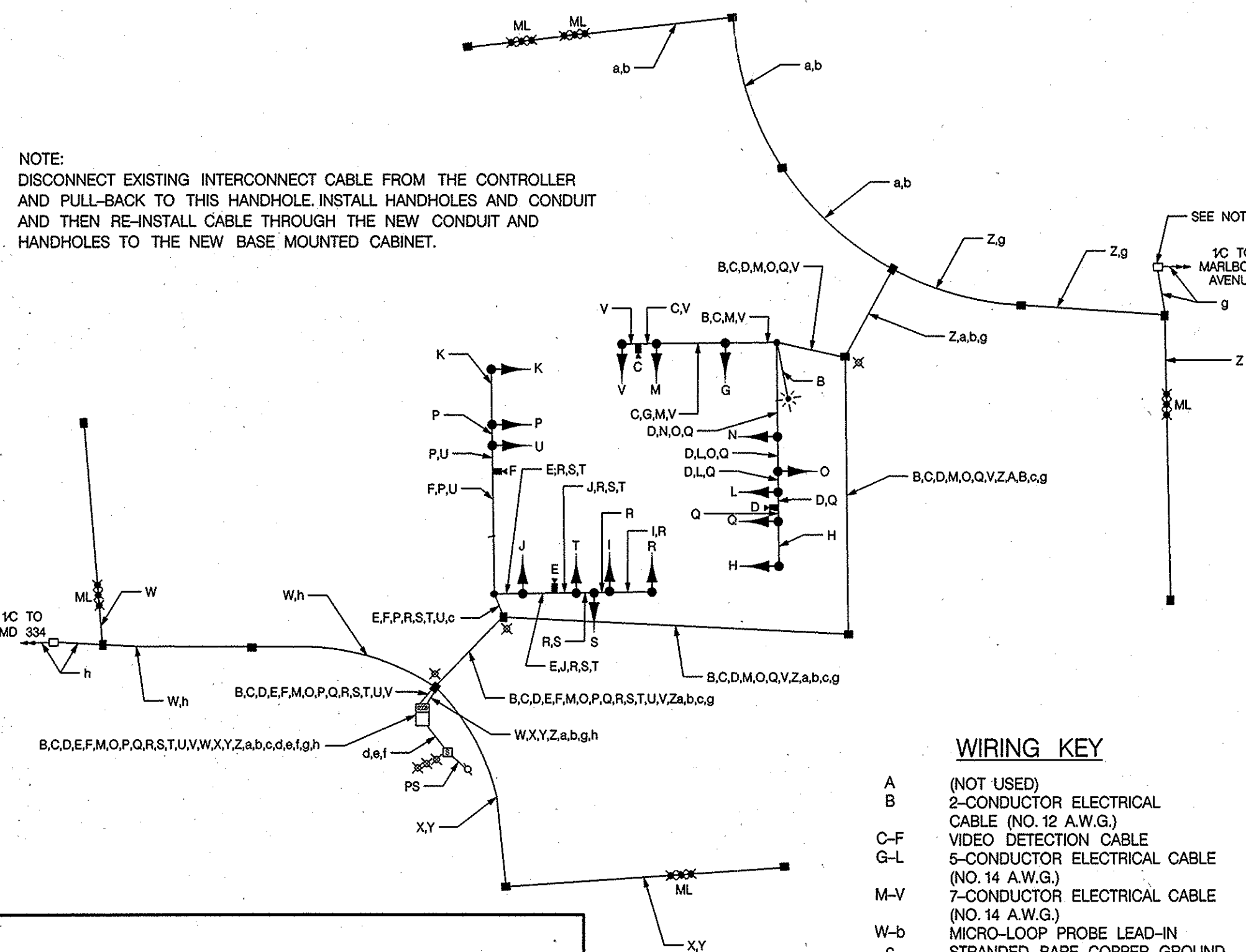
WIRING KEY

A-F 5-CONDUCTOR ELECTRICAL CABLE
(NO. 14 A.W.G.)
G-P 7-CONDUCTOR ELECTRICAL CABLE
(NO. 14 A.W.G.)
Q-T VIDEO DETECTION CABLE
(NO. 12 A.W.G.)
U 2-CONDUCTOR ELECTRICAL
CABLE (NO. 12 A.W.G.)
V (NOT USED)
W EXISTING INTERCONNECT CABLE
X STRANDED BARE COPPER GROUND
Y-a WIRE (NO. 6 A.W.G.)
1-CONDUCTOR ELECTRICAL CABLE
(NO. 4 A.W.G.)
PS PROPOSED ELECTRIC SERVICE
X GROUND ROD



WIRING DIAGRAM PHASE 2

NOTE:
DISCONNECT EXISTING INTERCONNECT CABLE FROM THE CONTROLLER
AND PULL-BACK TO THIS HANDHOLE. INSTALL HANDHOLES AND CONDUIT
AND THEN RE-INSTALL CABLE THROUGH THE NEW CONDUIT AND
HANDHOLES TO THE NEW BASE MOUNTED CABINET.



WIRING KEY

A (NOT USED)
B 2-CONDUCTOR ELECTRICAL
CABLE (NO. 12 A.W.G.)
C-F VIDEO DETECTION CABLE
(NO. 14 A.W.G.)
G-L 5-CONDUCTOR ELECTRICAL CABLE
(NO. 14 A.W.G.)
M-V 7-CONDUCTOR ELECTRICAL CABLE
(NO. 14 A.W.G.)
W-b MICRO-LOOP PROBE LEAD-IN
c STRANDED BARE COPPER GROUND
d-f WIRE (NO. 6 A.W.G.)
1-CONDUCTOR ELECTRICAL CABLE
(NO. 4 A.W.G.)
g-h EXISTING INTERCONNECT CABLE
PS PROPOSED ELECTRIC SERVICE
X GROUND ROD
ML MICRO-LOOP PROBE

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED BY THE SHA AND INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
NONE		

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY FOR APPROVAL PRIOR TO INSTALLATION.

QUANTITY	DESCRIPTION
1 EA	MAINTENANCE OF TRAFFIC
3 CY	TEST PIT EXCAVATION
135 LF	FURNISH AND INSTALL 24 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING
2 EA	FURNISH AND INSTALL 250 FT. VIDEO DETECTION CABLE
2 EA	FURNISH AND INSTALL 500 FT. VIDEO DETECTION CABLE
48 EA	FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION LED
1 EA	CUT, CLEAN, GALVANIZE AND CAP MAST ARM POLE
2 EA	FURNISH AND INSTALL 50 FT./70 FT. TWIN MAST ARMS AND POLE
3 EA	FURNISH AND INSTALL NON-INVASIVE MICRO-LOOP PROBE SET WITH 1000 FT. LEAD-IN.
3 EA	FURNISH AND INSTALL NON-INVASIVE MICRO-LOOP PROBE SET WITH 500 FT. LEAD-IN
LS	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
4 EA	FURNISH AND INSTALL VIDEO DETECTION CAMERA
1 EA	FURNISH AND INSTALL VIDEO INTERFACE EQUIPMENT
1200 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
280 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - BORED
20 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
12 CY	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
68 LF	FURNISH AND INSTALL WOOD SIGN SUPPORTS (4 IN. X 6 IN.)
280 LF	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER WIRE
320 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - BORED
1 EA	FURNISH AND INSTALL METERED SERVICE PEDESTAL
60 LF	FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR (NO. 4 A.W.G.)
16 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
6 EA	FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FT. LENGTH
140 LF	FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR (NO. 14 A.W.G.)
2150 LF	FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR (NO. 14 A.W.G.)
320 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 12 A.W.G.) - TRAY CABLE
1 EA	FURNISH AND INSTALL BASE MOUNTED CABINET AND CONTROLLER
2 EA	FURNISH AND INSTALL 4-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
4 EA	FURNISH AND INSTALL D3-2 DUAL FACE SIGN (VAR. X 16") - MAST ARM MOUNT
1 EA	FURNISH AND INSTALL W9-2(4) SIGN (30" X 42") - MAST ARM MOUNT
6 EA	FURNISH AND INSTALL R3-5(L) SIGN (30" X 36") - MAST ARM MOUNT
1 EA	FURNISH AND INSTALL SHIELD ASSEMBLY "NORTH322/LT. ARROW" (48" X 75")-POLE MOUNTED
1 EA	FURNISH AND INSTALL SHIELD ASSEMBLY "SOUTH322/LT. ARROW" (48" X 75")-POLE MOUNTED
1 EA	FURNISH AND INSTALL SHIELD ASSEMBLY "WEST33/LT. ARROW" (48" X 75")-POLE MOUNTED
1 EA	FURNISH AND INSTALL SHIELD ASSEMBLY "EAST33/LT. ARROW" (48" X 75")-POLE MOUNTED
1 EA	FURNISH AND INSTALL SHIELD ASSEMBLY "NORTH322/DIAG. ARROW" (24" X 51")-GROUND MOUNTED
1 EA	FURNISH AND INSTALL SHIELD ASSEMBLY "SOUTH322/DIAG. ARROW" (24" X 51")-GROUND MOUNTED
1 EA	FURNISH AND INSTALL SHIELD ASSEMBLY "WEST33/DIAG. ARROW" (24" X 51")-POLE MOUNTED
1 EA	FURNISH AND INSTALL SHIELD ASSEMBLY "EAST33/DIAG. ARROW" (24" X 51")-POLE MOUNTED
3800 LF	REMOVE AND RE-INSTALL EXISTING CABLE
16 EA	RELOCATE EXISTING SIGNAL HEAD
6 EA	RELOCATE EXISTING SIGN
140 LF	FURNISH AND INSTALL 3/8 IN. STEEL SPAN WIRE
1 EA	FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM
1 EA	FURNISH AND INSTALL 250 WATT HPSV LUMINAIRE

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

ITEM NO.	QUANTITY	DESCRIPTION
NONE		

ALL SIGNAL EQUIPMENT TO BE REMOVED AND NOT RETURNED TO THE SHA SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

CONTACT PERSONS FOR DISTRICT 2 ARE AS FOLLOWS:

MR. ROBERT KIEL
ASSISTANT DISTRICT ENGINEER - TRAFFIC
(410) 778-3061

MR. TERRY WRIGHT
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
(410) 778-3061

MR. BARRY CLOTHIER
ASSISTANT DISTRICT ENGINEER - UTILITIES
(410) 778-3061

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR.
CHIEF, TRAFFIC OPERATIONS
(410) 787-7630

MR. EUGENE BAILEY
TEAM LEADER SIGN OPERATIONS
(410) 787-7676

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF,
TRAFFIC OPERATIONS
(410) 787-7631

MS. DARLENE EIDE
SUPPLY OFFICE
SIGNAL SHOP WAREHOUSE
(410) 787-7668

MR. ED RODENHIZER
TEAM LEADER SIGNAL OPERATIONS
(410) 787-7652

PHASING CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 1 & 5	←G→	←G→	R	R	←G→	←G→	R	R	R	R	R	R	R	R	R	R
1 & 5 CHANGE	←G→	←G→	G	G	R	R	R	R	R	R	R	R	R	R	R	R
PHASE 1 & 6	←G→	←G→	G	G	R	R	R	R	R	R	R	R	R	R	R	R
1 CHANGE	←Y→	←Y→	G	G	R	R	R	R	R	R	R	R	R	R	R	R
PHASE 2 & 5	R	R	R	R	←G→	←G→	G	G	R	R	R	R	R	R	R	R
5 CHANGE	R	R	R	R	←Y→	←Y→	G	G	R	R	R	R	R	R	R	R
PHASE 2 & 6	R	R	G	G	R	R	G	G	R	R	R	R	R	R	R	R
2 & 6 CHANGE	R	R	Y	Y	R	R	Y	Y	R	R	R	R	R	R	R	R
PHASE 3 & 7	R	R	R	R	R	R	R	R	←G→	←G→	R	R	←G→	←G→	R	R
3 & 7 CHANGE	PHASE 3 & 7 MAY CHANGE TO PHASE 3 & 8, 4 & 7, OR 4 & 8															
PHASE 3 & 8	R	R	R	R	R	R	R	R	R	R	R	R	←G→	←G→	G	G
3 CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	←Y→	←Y→	G	G
PHASE 4 & 7	R	R	R	R	R	R	R	R	←G→	←G→	G	G	R	R	R	R
7 CHANGE	R	R	R	R	R	R	R	R	←Y→	←Y→	G	G	R	R	R	R
PHASE 4 & 8	R	R	R	R	R	R	R	R	R	R	R	R	G	G	R	G
4 & 8 CHANGE	R	R	R	R	R	R	R	R	R	R	R	Y	Y	R	R	Y
FLASHING OPERATION	FLR	FLR	FLY	FLY	FLR	FLR	FLY	FLY	FLR	FLR	FLR	FLR	FLR	FLR	FLR	FLR



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET MD 322 AND MD 33

SCALE NONE DATE 7-17-06 CONTRACT NO. BW-990M62

DESIGNED BY T. ZAYDEL COUNTY TALBOT
DRAWN BY T. ZAYDEL LOGMILE 20003322.98
CHECKED BY K. SCHMID T.I.M.S. NO. G697
F.A.P. NO. TOD NO.

DRAWING NO. TS-1349G GI SHEET NO. 3 OF 3

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